

Appl. No.: 09/998,478
 Filed: November 30, 2001
Page 8

REMARKS/ARGUMENTS

In the Office Action dated August 30, 2004, Claims 1-35 are pending. Claims 21-35, previously withdrawn, have been canceled. Claims 1-3, 5, 6, 8, 9, and 12 are rejected under 35 U.S.C. § 102(b) as being anticipated by "Neural Network-Based Control for the Fiber Placement Composite Manufacturing Process" (hereinafter, "Lichtenwalner"). Each of the remaining Claims is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lichtenwalner in view of one or more of U.S. Patent No. 5,886,313 to Krause, et al., U.S. Patent No. 5,705,788 to Beyer, et al., U.S. Patent No. 5,396,415 to Konar, et al., U.S. Patent No. 6,272,664 to Chang, et al., and "admitted prior art."

Applicant respectfully requests that the Examiner enter the amendments set forth above regarding each of the independent Claims 1 and 13, and submits that the amendments put all of the claims in condition for allowance. Claims 1 and 13 have been amended by the incorporation of limitations from Claims 3 and 15, respectively. Therefore, the amendments raise no new issues.

In particular, Applicant has incorporated limitations from Claim 3 in Claim 1. Thus, Claim 1 now recites that the step of providing a feedforward response surface includes "operating a fiber placement machine at the predefined velocity of the fiber tape; providing the predefined feedforward control value as a heat control value; measuring the resulting temperature of the fiber tape; and storing the predefined velocity, the predefined feedforward control value, and the resulting temperature as a data point in the feedforward response surface." Although Claim 3 was rejected under 35 U.S.C. § 102(b) as being anticipated by Lichtenwalner, Applicant asserts that neither Claim 3 nor Claim 1, as amended, are so anticipated. In fact, Lichtenwalner does not teach providing the predefined feedforward control value as a heat control value and storing the resulting temperature in the feedforward response surface. Regarding Claim 3, the Office Action states that "the look-up table is constructed by running the process in the fiber placement machine." In this regard, Lichtenwalner describes a learning operation in which "[t]he training signal for the network is the output of the proportional feedback controller." Lichtenwalner at page 689, Section 5, "Inverse Model Neurocontrol Architecture." Neither Lichtenwalner nor the other references teach that the predefined

Appl. No.: 09/998,478
Filed: November 30, 2001
Page 9

feedforward control value can be provided as the control value during a learning operation such as the construction of a look-up table. Moreover, the cited references do not teach storing a resulting temperature in the feedforward response surface during any stage of operation.

Claim 13 has been amended similarly, i.e., to incorporate the limitations previously set forth in Claim 15. Therefore, Claim 13 is allowable over the cited references for the same reasons.

Applicant submits that independent Claims 1 and 13 are in condition for allowance as set forth above, and therefore each of the dependent Claims 2-12 and 14-20 is also allowable. Accordingly, Applicant respectfully requests entry of the amendments and allowance of the pending claims.

* * * *

CONCLUSIONS

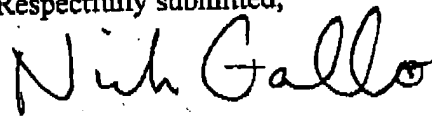
In view of the remarks presented above, Applicant submits that the present application is in condition for allowance. As such, the issuance of a Notice of Allowance is therefore respectfully requested. In order to expedite the examination of the present application, the Examiner is encouraged to contact Applicant's undersigned attorney in order to resolve any remaining issues.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper.

Appl. No.: 09/998,478
Filed: November 30, 2001
Page 10

However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

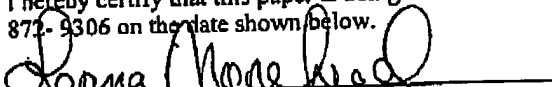


Nicholas F. Gallo
Registration No. 50,135

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Charlotte Office (704) 444-1000
Fax Charlotte Office (704) 444-1111

CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office Fax No. (703) 872-9306 on the date shown below.


Lorna Morehead

September 28, 2004
Date

CLT01/4665567v1